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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,301	12/04/2003	Kouichi Numazawa	TS8066 (US)	7085

7590 03/07/2007  
Yukiko Iwata  
Shell Oil Company  
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P. O. Box 2463  
Houston, TX 77252-2463

EXAMINER
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LANG, AMY T

ART UNIT	PAPER NUMBER
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3731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/728,301

Applicant(s)

NUMAZAWA ET AL.

Examiner

Amy T. Lang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

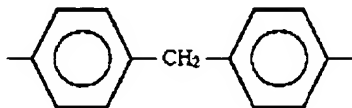
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-20 and 28-35** are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa (US 5,854,183).

With regard to **claims 1-4, 9, 10, 15-18, and 35**, Hasegawa discloses a grease composition comprising base oil and a thickening agent (A) (column 2, lines 5-8). The thickening agent comprises a diurea compound of the formula:



where  $\text{R}^2$  and  $\text{R}^3$  are each independently an alkyl or alkenyl group having 8 to 20 carbon atoms (column 3, lines 19-27; column 3, line 66 through column 4, line 2). Therefore, when  $\text{R}^2$  comprises an alkyl group and  $\text{R}^3$  an alkenyl group so that greater than 30 mol% of the hydrocarbon group is unsaturated, the instant claims are anticipated.  $\text{R}^1$  is further disclosed as comprising the formula:



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which clearly overlaps the instantly claimed diphenylmethane group (column 3, lines 40-45). Therefore, the diurea compound of Hasegawa clearly overlaps the instantly claimed compound (c).

The diurea compound is present in the thickening agent (A) from 20 to 95 mol% (column 5, lines 8-13). The thickening agent is present in the lubricating composition from 2 to 25 mass% (column 5, lines 8-13). Therefore, the diurea compound is present in the lubricating composition at 23.75% (when 95 mol% of the diurea and 25 mass% of the thickening agent is utilized) and 5% (when 20 mol% of the diurea and 25% of the thickening agent is utilized).

With regard to **claims 5-8, and 19**, Hasegawa further discloses an extreme pressure agent additive in the composition, specifically zinc dithiophosphate (column 10, lines 50-56).

With regard to **claims 11-14, and 20**, Hasegawa discloses a molybdenum compound as an additive, specifically molybdenum dithiophosphates and molybdenum dithiocarbamates (column 8, lines 10-13).

With regards to **claims 28-34**, the lubricant composition of Hasegawa is utilized in tripod-type constant velocity joints, which encompasses a sliding surface in a relative motion (column 11, lines 17-19).

3. **Claims 21-27** are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa (US 5,854,183) in view of the evidence given by Abraham (US 2005/0064943 A1).

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Hasegawa discloses a lubricating composition for tripod type constant velocity joints, but is silent regarding lubricating a bearing (column 11, lines 17-19). Abraham teaches that tripod type joints comprise a bearing ([0018]; Figure 1). Therefore, in view of the evidence given by Abraham, Hasegawa discloses a lubricant for bearings.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

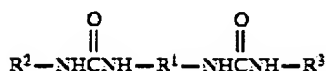
5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

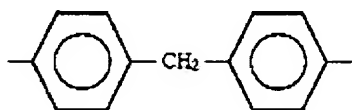
6. **Claims 1-20 and 28-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa (US 5,854,183) in view of Ozaki (JP 06017080 A).

Hasegawa discloses a grease composition comprising base oil and a thickening agent (A) (column 2, lines 5-8). The thickening agent comprises a diurea compound of the formula:

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where  $R^2$  and  $R^3$  are each independently an alkyl or alkenyl group having 8 to 20 carbon atoms (column 3, lines 19-27; column 3, line 66 through column 4, line 2). Therefore, when  $R^2$  comprises an alkyl group and  $R^3$  an alkenyl group so that greater than 30 mol% of the hydrocarbon group is unsaturated, the instant claims are anticipated.  $R^1$  is further disclosed as comprising the formula:



which clearly overlaps the instantly claimed diphenylmethane group (column 3, lines 40-45). Therefore the diurea compound of Hasegawa clearly overlaps the instantly claimed compounds (a), (b), or (c). Although Hasegawa does not specifically disclose more than one diurea compound in the thickening agent, it would have been obvious to combine the compounds in the thickening agent (In re Linder 173 USPQ 356 (CCPA 1972)).

Hasegawa is silent as to the mol % of the instantly claimed compound (a) to the total amount of (a) and (b). However, Ozaki also discloses a urea grease composition comprised of a mixture of two diurea compounds in a mol ratio of 20-90 mol% ([0004]). This combination produces a grease with superior mechanical stability, water stability, thermal resistance, and pumpability ([0009]). It therefore would have been obvious to utilize the mole ratio of Ozaki for the compounds disclosed by Hasegawa for the advantages of mechanical stability, water stability, thermal resistance, and pumpability.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy T. Lang whose telephone number is 571-272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

2/23/2007

ARL

  
ANH TUAN T. NGUYEN  
SUPERVISORY PATENT EXAMINER

3/1/07